

TECHNICAL DATA SHEET



U6000 free

June 2013

Electrical polyurethane resin

DESCRIPTION

Casting resin for mechanical and numerous electrical applications especially for low or medium voltage when requiring an extinguishing characteristic.

Example: capacitors, transformers, electronic cards and components

PROPERTIES

- Two-component liquid polyurethane resin
- Solvent free
- Semi-flexible
- Halogene free
- Chemical resistance to the different engine fluids

PHYSICAL PROPERTIES

Composition		POLYOL	ISOCYANATE	MIXED
Mix ratio by weight Mix ratio by volume at 25°C		100 100	21 29	
Aspect		liquid	liquid	liquid
Colour		white	transparent	white
Viscosity (mPa.s)	Brookfield LVT	8.000 at 25°C 3.800 at 40°C	500	2.800 at 25°C 2050 at 40°C
Specific gravity at 23°C Specific gravity of cured product at 23°C	ISO 1675 : 1985 ISO 2781 : 1996	1,57 -	1,15 -	- 1,50
Gel time (at 25°C) (200 gr) (min.)	Gel Timer TECAM			60

MECHANICAL PROPERTIES at 23°C (1)

Hardness	ISO 868 : 2003	Shore A	90
		Shore D1 / D15	41 / 36
Tensile strength	ISO 37 : 2004	MPa	Around 4
Elongation at break	ISO 37 : 2004	%	Around 55

(1) Average values obtained on standardized specimens /Hardening 16 h at 80°C.

PROCESSING CONDITIONS

Stir carefully polyol before use. Both parts (polyol and isocyanate) have to be mixed at a temperature equal or higher than 18°C according to the mixing ratio indicated on the technical data sheet. Before casting, make sure that parts or moulds are free of any trace of moisture.

THERMAL AND SPECIFIC PROPERTIES (1)

Working temperature	-	-	-40 / +80
Thermal conductivity	EN 993-15	W/m.K	Around 0,7
Glass transition temperature (Tg)	ISO 11359 :2002	°C	Around - 30
Coefficient of thermal expansion (CTE) (-50°C to -30°C) / (+10°C to +50°C)	ISO 11359 : 1999	10 ⁻⁶ K ⁻¹	Around 48 / 147
Water absorption (23°C – 24h)	ISO 62 : 1999	%	Around 0,4
Directive 2002/95/CE (ROHS) (2)	-	-	Conforme

(1) Average values obtained on standardized specimens / Hardneing 16 heures at 80°C.

(2) European directive on the restriction of the use of certain hazardous substances electrical and electronic equipment.

DIELECTRIC AND INSULATING PROPERTIES at 23°C (1)

Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2 :1998	kV/mm	27
Dielectric constant ε (100 Hz)	CEI 60250 :1969		9.4
Dissipation factor tg δ (100 Hz)	CEI 60250 :1969		0.06
Volume resistivity (1.000 V)	CEI 60093 E2 :1980	Ω.cm	-

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products:

Ensure good ventilation

Wear gloves, safety glasses and waterproof clothes

For further information, please consult the product safety data sheet.

STORAGE CONDITIONS

Shelf life is 3 months for polyol and 12 months for iso in a dry place and in their original unopened containers at a temperature between 15 and 25°C Any open can must be tightly closed under dry nitrogen.

GARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of ABchimie products, under their own conditions before commencing with the proposed application. ABchimie guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. ABchimie disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of ABchimie is strictly limited to reimbursement or replacement of products which do not comply with the published specifications.